1 Problem Statement & Dataset

Create a collection named "Employee" under the "EmployeeDB" database with each document in the format shown below Table 1.

Table 1: Document Format

Name	Age	Salary in INR	Designation	Role
{Firstname,				[Manager, "Team Lead",
middlename,	25-40	20000 - 75000	Employee Designation	"Software Developer",
lastname}				"Tester", "UI Designer"]
String BSON Object	int	Number	String	String Array

```
> use empbd
switched to db empbd
> db.createCollection("nams")
{ "ok" : 1 }
> show collections
nams
```

2 Queries

1. Populate the database with at least 15 documents.

```
> db.nams.find().pretty()
{
       "_id": ObjectId("629875d6ab1f2779ce0709ee"),
       "firstname": "Namratha",
       "middlename": "Shree",
       "lastname": "V",
       "age": 26,
       "salary": 50000,
       "designation": "scientist",
       "role": "tester"
}
{
       " id": ObjectId("629875d6ab1f2779ce0709ef"),
       "firstname" : "Sushma",
       "middlename": "R",
       "lastname": "Hegde",
       "age": 27,
       "salary": 55000,
       "designation": "PA",
       "role": "team lead"
       " id": ObjectId("629875d6ab1f2779ce0709f0"),
```

```
"firstname": "vedha",
       "middlename": "Shree",
       "lastname": "V",
       "age": 28,
       "salary": 60000,
       "designation": "lead",
       "role": "UI designer"
}
{
       "_id": ObjectId("629875d6ab1f2779ce0709f1"),
       "firstname": "Sam",
       "middlename": "S",
       "lastname": "Smith",
       "age": 35,
       "salary": 70000,
       "designation": "associate",
       "role": "manager"
}
{
       " id": ObjectId("62987814ab1f2779ce0709f2"),
       "firstname": "Rajesh",
       "middlename": "Kumar",
       "lastname": "swamy",
       "age": 32,
       "salary": 32000,
       "designation": "scientist",
       "role" : "tester"
}
{
       " id": ObjectId("62987814ab1f2779ce0709f3"),
       "firstname": "Sriya",
       "middlename": "Kumar",
       "lastname": "H",
       "age": 34,
       "salary": 31000,
       "designation": "PA",
       "role": "team lead"
}
{
       " id": ObjectId("62987814ab1f2779ce0709f4"),
       "firstname": "Vidya",
       "middlename": "Kumar",
       "lastname": "S",
       "age": 28,
       "salary": 60000,
       "designation": "lead",
       "role": "UI designer"
}
{
       "_id": ObjectId("62987814ab1f2779ce0709f5"),
       "firstname": "Samarth",
       "middlename": "S",
```

```
"lastname": "H",
       "age": 33,
       "salary": 34000,
       "designation": "teacher",
       "role": "software developer"
}
{
       " id": ObjectId("62987964ab1f2779ce0709f6"),
       "firstname": "Ram",
       "middlename": "K",
       "lastname": "Mukherjee",
       "age": 28,
       "salary": 22000,
       "designation": "guide",
       "role": "team lead"
}
{
       " id": ObjectId("62987964ab1f2779ce0709f7"),
       "firstname": "Aruna",
       "middlename": "Shree",
       "lastname": "K",
       "age": 34,
       "salary": 21000,
       "designation": "recruiter",
       "role": "manager"
}
{
       " id": ObjectId("62987964ab1f2779ce0709f8"),
       "firstname": "Vishwa",
       "middlename": "Nath",
       "lastname": "A",
       "age": 28,
       "salary": 27000,
       "designation": "recruiter",
       "role": "manager"
}
{
       " id": ObjectId("62987964ab1f2779ce0709f9"),
       "firstname": "Swathi",
       "middlename": "S",
       "lastname": "Reddy",
       "age": 28,
       "salary": 34000,
       "designation": "teacher",
       "role": "software developer"
}
{
       " id": ObjectId("62987a97ab1f2779ce0709fa"),
       "firstname": "Rajesh",
       "middlename": "R",
       "lastname": "Reddy",
       "age": 39,
```

```
"salary": 55000,
             "designation": "scientist",
             "role": "tester"
             " id": ObjectId("62987a97ab1f2779ce0709fb"),
             "firstname": "Ashwini",
             "middlename": "R",
             "lastname": "Shetty",
             "age": 34,
             "salary": 55650,
             "designation": "PA",
             "role": "team lead"
{
             " id": ObjectId("62987a97ab1f2779ce0709fc"),
             "firstname": "Veera",
             "middlename": "N",
             "lastname": "Shetty",
             "age": 31,
             "salary": 55650,
             "designation": "HR",
             "role": "team lead"
}
  db.nams.find().pretty()
         "_id" : ObjectId("629875d6ab1f2779ce0709ee"),
"firstname" : "Namratha",
"middlename" : "Shree",
"lastname" : "V",
"age" : 26,
"salary" : 50000,
"designation" : "scientist",
"role" : "tester"
         "_id" : ObjectId("629875d6ab1f2779ce0709ef"),
"firstname" : "Sushma",
"middlename" : "R",
"lastname" : "Hegde",
"age" : 27,
"salary" : 55000,
"designation" : "PA",
"role" : "team lead"
         "_id" : ObjectId("629875d6ab1f2779ce0709f0"),
"ftrstname" : "vedha",
"middlename" : "Shree",
"lastname" : "V",
"age" : 28,
"salary" : 60000,
"designation" : "lead",
"role" : "UI designer"
```

"_id" : ObjectId("629875d6ab1f2779ce0709f1"),
"firstname" : "Sam",

```
{
    "_id" : ObjectId("62987516ab1f2779ce0709f1"),
        "Tirstname" : "San",
        "niddlename" : "Snith",
        "age" : 35,
        "salary" : 70800,
        "designation" : "associate",
        "role" : "manager"
}
{
    "_id" : ObjectId("62987814ab1f2779ce0709f2"),
        "firstname" : "Rajesh",
        "midlename" : "Kumar",
        "lastname" : "swany",
        "age" : 32,
        "salary" : 32000,
        "designation" : "scientist",
        "role" : "tester"
}
{
    "_id" : ObjectId("62987814ab1f2779ce0709f3"),
    "firstname" : "Sriya",
        "midlename" : "Kumar",
        "lastname" : "Fry",
        "nole" : "tester"
}
{
    "_id" : ObjectId("62987814ab1f2779ce0709f3"),
    "role" : "tean lead"

{
    "_id" : ObjectId("62987814ab1f2779ce0709f4"),
    "firstname" : "Yan,
        "role" : "tean lead"

{
    "_id" : ObjectId("62987814ab1f2779ce0709f4"),
        "firstname" : "Kumar",
        "nole" : "tean lead"

}
```

```
"_dd": ObjectId("62987964ab1f2779ce0709f0"),
    "firstname" : "Ram",
    "niddlename" : "K",
    "lastname" : "Mukherjee",
    "age" : 28,
    "salary" : 22000,
    designation" : "guide",
    "role" : "team lead"

{
    "td" : ObjectId("62987964ab1f2779ce0709f7"),
    "firstname" : "Aruna",
    "niddlename" : "Shree",
    "lastname" : "K",
    "age" : 34,
    "salary" : 21000,
    "designation" : "recruiter",
    "role" : "manager"

}

{
    "_dd" : ObjectId("62987964ab1f2779ce0709f8"),
    "firstname" : "Nath",
    "lastname" : "Nath",
    "lastname" : "Nath",
    "lastname" : "Nath",
    "age" : 28,
    "salary" : 27000,
    "designation" : "recruiter",
    "role" : "manager"

}

{
    "_dd" : ObjectId("62987964ab1f2779ce0709f9"),
    "firstname" : "Swathi",
    "niddlename" : "Swathi",
    "niddlename" : "Swathi",
    "niddlename" : "Swathi",
    "niddlename" : "Sy,
    "lastname" : "Sy,
    "lastname
```

```
"salary": 31000,
    "destgnation": "PA",
    "rote': "tean lead"

{
    "_td": Objectid("62987814abif2779ce0709f4"),
    "Firstname": "Vidya',
    "niddlename": "Kumar",
    "lastname": "S',
    "age": 28,
    "salary": 60000,
    "destgnation": 'lead",
    "rote': "Ui destgner"

{
    "_td": Objectid("62987814abif2779ce0709f5"),
    "Firstname": "Samarth',
    "niddlename": "S',
    "lastname": "S',
    "age": 33,
    "salary": 34000,
    "destgnation": 'teacher",
    "rote': "software developer"

{
    "_td": Objectid("62987964abif2779ce0709f6"),
    "Firstname": "Ram",
    "niddlename": "Sikherjee",
    "age": 2300,
    "destgnation": 'guide",
    "rote': "software develope"

}

{
    "_td": Objectid("62987964abif2779ce0709f6"),
    "Firstname": "Rukherjee",
    "age": 22000,
    "destgnation": guide",
    "rote': "tean lead"

*
    "_td": Objectid("62987964abif2779ce0709f7"),
    "Firstname": "Aruma",
    "niddlename": "Shree",
    "_td": Objectid("62987964abif2779ce0709f7"),
    "Firstname": "Aruma",
    "niddlename": "Shree",
    ""td": Objectid("62987964abif2779ce0709f7"),
    "Firstname": "Shree",
    ""td": Objectid("62987964abif2779ce0709f7"),
    "Firstname": "Shree",
    ""td": Objectid("62987964abif2779ce0709f7"),
    "Totalame": "Shree",
    ""td": Objectid("62987964abif2779ce0709f7"),
    ""totalame": "Shree",
    ""td": Objectid("6298796
```

```
"middlename": "Nath",
    "lastname": "A',
    "age": 28,
    "salary": 27000,
    "designation": "recruiter",
    "role": "manager"

{
    "id": ObjectId("62987964ab1f2779ce0709f9"),
    "firstname": "Swathl',
    "lidflename": "Swathl',
    "lidflename": "Swathl',
    "lastname": Reddy",
    "age": 28,
    "salary": 14000,
    "designation": "teacher",
    "role": "software developer"

{
    "id": ObjectId("62987a97ab1f2779ce0709fa"),
    "firstname": "R,
    "lastname": "Reddy",
    "age": 39,
    "salary": 15000,
    "designation": "scientist",
    "role": "tester"

}

{
    "id": ObjectId("62987a97ab1f2779ce0709fb"),
    "firstname": "Shetty",
    "age": 39,
    "salary": 55000,
    "designation": "Scientist",
    "role": "tester"

| "id": ObjectId("62987a97ab1f2779ce0709fb"),
    "firstname": "Shetty",
    "age": 34,
    "salary": 55500,
    "designation": "PA',
    "role": "tean lead"

}
```

```
"_id" : ObjectId("62987a97ab1f2779ce0709fb"),
    "firstname" : "Ashwint",
    "middlename" : "R",
    "lastname" : "Shetty",
    "age" : 34,
    "salary" : 55550,
    "designation" : "PA",
    "role" : "team lead"
}
{
    "_id" : ObjectId("62987a97ab1f2779ce0709fc"),
    "firstname" : "Veera",
    "middlename" : "N',
    "lastname" : "Shetty",
    "age" : 31,
    "salary" : 55550,
    "designation" : "HR",
    "role" : "team lead"
}
```

2. List all the records having salary in the range of 20000 - 35000(Exclusive).

```
> db.nams.find({"salary":{$gt:20000,$lt:35000}}).pretty()
{
       " id": ObjectId("62987814ab1f2779ce0709f2"),
       "firstname" : "Rajesh",
       "middlename": "Kumar",
       "lastname": "swamy",
       "age": 32,
       "salary": 32000,
       "designation": "scientist",
       "role": "tester"
}
{
       "_id": ObjectId("62987814ab1f2779ce0709f3"),
       "firstname": "Sriya",
       "middlename": "Kumar",
       "lastname": "H",
       "age": 34,
       "salary": 31000,
       "designation": "PA",
       "role": "team lead"
}
{
       " id": ObjectId("62987814ab1f2779ce0709f5"),
       "firstname": "Samarth",
       "middlename": "S",
       "lastname": "H",
       "age": 33,
       "salary": 34000,
       "designation": "teacher",
       "role": "software developer"
}
{
       " id": ObjectId("62987964ab1f2779ce0709f6"),
       "firstname": "Ram",
       "middlename": "K",
       "lastname": "Mukherjee",
       "age": 28,
       "salary": 22000,
       "designation": "guide",
       "role": "team lead"
       " id": ObjectId("62987964ab1f2779ce0709f7"),
       "firstname": "Aruna",
       "middlename": "Shree",
       "lastname": "K",
       "age": 34,
       "salary": 21000,
```

```
"designation": "recruiter",
      "role" : "manager"
      " id": ObjectId("62987964ab1f2779ce0709f8"),
      "firstname": "Vishwa",
      "middlename": "Nath",
      "lastname": "A",
      "age": 28,
      "salary": 27000,
      "designation": "recruiter",
      "role": "manager"
      " id": ObjectId("62987964ab1f2779ce0709f9"),
      "firstname": "Swathi",
      "middlename": "S",
      "lastname": "Reddy",
      "age": 28,
      "salary": 34000,
      "designation": "teacher",
      "role": "software developer"
}
```

```
db.nams.find(("salary":{5gt:20000,5lt:35000})).pretty()
{
    "_td": ObjectId("62987814ab1f2779ce0709f2"),
    "ffrstname": "Kupar",
    "lastname": "Kupar",
    "age": 32,
    "salary": 32000,
    "designation": "sctentist",
    "role": "tester"
}
{
    "_td": ObjectId("62987814ab1f2779ce0709f3"),
    "ffrstname": "Srlya",
    "niddlename": "Kupar",
    "lastname": "H,
    "age": 34,
    "salary": 31000,
    "designation": "PA",
    "role": "tean lead"
}
{
    "_td": ObjectId("62987814ab1f2779ce0709f5"),
    "ffrstname": "Samarth",
    "niddlename": "S",
    "lastname": "H,
    "age": 34,
    "salary": 34000,
    "designation": "Fa",
    "age": 34,
    "salary": 34000,
    "designation": "Facecher",
    "role": "software developer"

{
    "_td": ObjectId("62987964ab1f2779ce0709f6"),
    "ffrstname": "Ram"
    "niddlename": "Ram"
    "niddlename": "Ram"
    "niddlename": "Mukherjee",
    """
    "Nukherjee",
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    "Nukherjee",
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```

```
"middlename": "K",
    "lastname": "Mukherjee",
    "age': 28,
    "salary": 22000,
    "designation": "guide",
    ""role": "tean lead"

{
    ".id": objectId("e2987964ab1f2779ce0709f7"),
    ""firstname": "Aruna"
    "niddlename": "Shree",
    "lastname": "K",
    "age': 28,
    "salary": 21000,
    "designation:: "recruiter",
    "role": "manager"
}

{
    ".id": objectId("62987964ab1f2779ce0709f8"),
    "firstname": "Vishwa",
    "niddlename": "Nath',
    "lastname": "Nath',
    "lastname": "Nath',
    "lastname": "F",
    "age': 28,
    "salary": 27000,
    "designation': "recruiter",
    "role": "nanager"

}

{
    ".id": objectId("62987964ab1f2779ce0709f9"),
    "firstname": "Swathi",
    "niddlename": "S",
    "lastnamee": "Suathi",
    "niddlenamee": "S",
    "lastnamee": "Salaton': "teacher",
    "role": "software developer"

}
```

3. List all the Employee whose Middle name is "Kumar".

```
> db.nams.find({"middlename":"Kumar"}).pretty()
{
    "_id" : ObjectId("62987814ab1f2779ce0709f2"),
    "firstname" : "Rajesh",
    "middlename" : "Kumar",
```

```
"lastname": "swamy",
      "age": 32,
      "salary": 32000,
      "designation": "scientist",
      "role": "tester"
{
      " id": ObjectId("62987814ab1f2779ce0709f3"),
      "firstname" : "Sriya",
      "middlename": "Kumar",
      "lastname": "H",
      "age": 34,
      "salary": 31000,
      "designation": "PA",
      "role": "team lead"
      " id": ObjectId("62987814ab1f2779ce0709f4"),
      "firstname": "Vidya",
      "middlename": "Kumar",
      "lastname": "S",
      "age": 28,
      "salary" : 60000,
      "designation": "lead",
      "role": "UI designer"
}
```

```
b.nams.find(("middlename":"Kumar")).pretty()

{
    ".id": ObjectId("62987814ab1f2779ce0709f2"),
    "firstname": "Rajesh",
    "niddlename": "Kumar",
    "age": 32,
    "salary": 32000,
    "designation": "scientist",
    "role": "tester"
}

{
    ".id": ObjectId("62987814ab1f2779ce0709f3"),
    "firstname": "Sriya",
    "middlename": "Kumar",
    "lastname": "Kumar",
    "age": 34,
    "salary": 31000,
    "designation": "PA",
    "role": "team lead"
}

{
    ".id": ObjectId("62987814ab1f2779ce0709f4"),
    "firstname": "Vidya",
    "middlename": "Kumar",
    "lastname": "Sy",
    "age": 28,
    "salary": 68080,
    "designation": "lead",
    "role": "Ud designer"
```

4. Count the number of Employees who has a role "Manager" in the Role field.

```
> db.nams.find({"role":"manager"}).count()
3
```

```
}
> db.nams.find({"role":"manager"}).count()
3
```

5. Find out all the documents who have age < 35 and salary in the range of 30000-35000.

```
>db.nams.find({$and:[{salary:{$gt:30000}},{salary:{$lt:35000}},{age:{$lt:35}}]}).pretty()
{
       " id": ObjectId("62987814ab1f2779ce0709f2"),
       "firstname": "Rajesh",
       "middlename": "Kumar",
       "lastname": "swamy",
       "age": 32,
       "salary": 32000,
       "designation": "scientist",
       "role": "tester"
}
{
       " id": ObjectId("62987814ab1f2779ce0709f3"),
       "firstname": "Sriya",
       "middlename": "Kumar",
       "lastname": "H",
       "age": 34,
       "salary": 31000,
       "designation": "PA",
       "role": "team lead"
}
{
       " id": ObjectId("62987814ab1f2779ce0709f5"),
       "firstname": "Samarth",
       "middlename": "S",
       "lastname": "H",
       "age": 33,
       "salary": 34000,
       "designation": "teacher",
       "role": "software developer"
}
{
       " id": ObjectId("62987964ab1f2779ce0709f9"),
       "firstname": "Swathi",
       "middlename": "S",
       "lastname": "Reddy",
       "age": 28,
       "salary": 34000,
       "designation": "teacher",
       "role": "software developer"
```

```
}
```

```
> db.nams.find({$and:[{salary:{$gt:30000}},{salary:{$lt:35000}},{age:{$lt:35}}]}).pretty()
{
    "_id" : ObjectId("62987814ab1f2779ce0709f2"),
    "firstname" : "Rajesh",
    "niddtenane" : "kunar",
    "lastnane" : "swamy",
    "age" : 32,
    "salary" : 32000,
    "designation" : "scientist",
    "role" : "tester"
}
{
    "_id" : ObjectId("62987814ab1f2779ce0709f3"),
    "firstname" : "Sriya",
    "niddlenane" : "Kunar",
    "lastnane" : "H",
    "age" : 34,
    "salary" : 31000,
    "designation" : "PA",
    "role" : "tean lead"
}
{
    "_id" : ObjectId("62987814ab1f2779ce0709f5"),
    "firstname" : "Samarth",
    "niddlenane" : "Samarth",
    "niddl
```

```
"middlename": "Kumar",
    "lastname": "Swamy,
    "age": 32,
    "salary": 32000,
    "designation": "sclentist",
    "role": 'tester"

{
    "_td": Objectid("62987814ab1f2779ce0709f3"),
    "firstname": "Kumar",
    "lastname": "Kumar",
    "lastname": "H",
    "age": 33, 31080,
    "designation": "PA",
    "role": "tean lead"

}

{
    "_td": Objectid("62987814ab1f2779ce0709f5"),
    "firstname": "Samarth",
    "ntiddlename": "S",
    "lastname": "H",
    "age": 33,
    "salary": 34080,
    "designation": "teacher",
    "role": "software developer"

}

{
    "_td": Objectid("62987964ab1f2779ce0709f9"),
    "firstname": "Swathi",
    "ntiddlename": "S",
    "lastname": "Software developer"

}

[
    "_td": Objectid("62987964ab1f2779ce0709f9"),
    "firstname": "Samarth",
    "ntiddlename": "S",
    "lastname": "Software developer"

}

[
    "_td": Objectid("62987964ab1f2779ce0709f9"),
    "firstname": "Samarth",
    "ntiddlename": "S",
    "lastname": "Software developer"

}

[
    "_td": Objectid("62987964ab1f2779ce0709f9"),
    "firstname": Software developer"

}

[
    "_td": Objectid("62987964ab1f2779ce0709f9"),
    "firstname": Software developer"

]

[
    "_td": Objectid("62987964ab1f2779ce0709f9"),
    "firstname": Software developer"

]
```

6. Delete an Employee whose "Firstname" is "Rajesh" and having the designation as "Scientist".

```
> db.nams.deleteOne({$and:[{firstname:"Rajesh"},{designation:"scientist"}]})
{ "acknowledged": true, "deletedCount": 1 }
> db.nams.find()

{ "_id": ObjectId("629875d6ab1f2779ce0709ee"), "firstname": "Namratha", "middlename":
"Shree", "lastname": "V", "age": 26, "salary": 50000, "designation": "scientist", "role": "tester" }
{ "_id": ObjectId("629875d6ab1f2779ce0709ef"), "firstname": "Sushma", "middlename": "R",
"lastname": "Hegde", "age": 27, "salary": 55000, "designation": "PA", "role": "team lead" }
```

```
{ "id" : ObjectId("629875d6ab1f2779ce0709f0"), "firstname" : "vedha", "middlename" : "Shree",
"lastname": "V", "age": 28, "salary": 60000, "designation": "lead", "role": "UI designer" }
{ "id": ObjectId("629875d6ab1f2779ce0709f1"), "firstname": "Sam", "middlename": "S",
"lastname": "Smith", "age": 35, "salary": 70000, "designation": "associate", "role": "manager" }
{ "id" : ObjectId("62987814ab1f2779ce0709f3"), "firstname" : "Sriya", "middlename" : "Kumar",
"lastname": "H", "age": 34, "salary": 31000, "designation": "PA", "role": "team lead" }
{ " id" : ObjectId("62987814ab1f2779ce0709f4"), "firstname" : "Vidya", "middlename" : "Kumar",
"lastname": "S", "age": 28, "salary": 60000, "designation": "lead", "role": "UI designer" }
{ "id": ObjectId("62987814ab1f2779ce0709f5"), "firstname": "Samarth", "middlename": "S",
"lastname": "H", "age": 33, "salary": 34000, "designation": "teacher", "role": "software
developer" }
{ " id" : ObjectId("62987964ab1f2779ce0709f6"), "firstname" : "Ram", "middlename" : "K",
"lastname": "Mukherjee", "age": 28, "salary": 22000, "designation": "guide", "role": "team
lead" }
{ "id": ObjectId("62987964ab1f2779ce0709f7"), "firstname": "Aruna", "middlename": "Shree",
"lastname": "K", "age": 34, "salary": 21000, "designation": "recruiter", "role": "manager" }
{ "id" : ObjectId("62987964ab1f2779ce0709f8"), "firstname" : "Vishwa", "middlename" : "Nath",
"lastname": "A", "age": 28, "salary": 27000, "designation": "recruiter", "role": "manager" }
{ " id" : ObjectId("62987964ab1f2779ce0709f9"), "firstname" : "Swathi", "middlename" : "S",
"lastname": "Reddy", "age": 28, "salary": 34000, "designation": "teacher", "role": "software
developer" }
{ " id" : ObjectId("62987a97ab1f2779ce0709fb"), "firstname" : "Ashwini", "middlename" : "R",
"lastname": "Shetty", "age": 34, "salary": 55650, "designation": "PA", "role": "team lead" }
{ "id": ObjectId("62987a97ab1f2779ce0709fc"), "firstname": "Veera", "middlename": "N",
"lastname": "Shetty", "age": 31, "salary": 55650, "designation": "HR", "role": "team lead" }
```

```
db.nams.deleteOne({Sand:[{firstname:"Rajesh"},{designation:"scientist"}})

d "acknowledged" : true, "deletedCount" : 1 }

db.nams.find()

{ "_id" : ObjectId("629875d6ab1f7779ce0709ee"), "firstname" : "Namratha", "middlename" : "Shree", "lastname" : "V", "age" : 26, "salary" : 50000,
    "designation" : "scientist", "role" : "tester" }

{ "_id" : ObjectId("629875d6ab1f2779ce0709er"), "firstname" : "Sushma", "middlename" : "R", "lastname" : "Hegde", "age" : 27, "salary" : 55000, "
    designation" : "PA", "role" : "team lead" }

{ "_id" : ObjectId("629875d6ab1f2779ce0709f0"), "firstname" : "vedha", "middlename" : "Shree", "lastname" : "V", "age" : 28, "salary" : 55000, "designation" : "lead", "role" : "UI designer" }

{ "_id" : ObjectId("629875d6ab1f2779ce0709f1"), "firstname" : "Sam", "middlename" : "S", "lastname" : "Smith", "age" : 35, "salary" : 70000, "designation" : "associate", "role" : "manager" }

{ "_id" : ObjectId("62987814ab1f2779ce0709f3"), "firstname" : "Vidya", "middlename" : "Kumar", "lastname" : "H", "age" : 34, "salary" : 31000, "designation" : "PA", "role" : "team lead" }

{ "_id" : ObjectId("62987814ab1f2779ce0709f4"), "firstname" : "Vidya", "middlename" : "Kumar", "lastname" : "S", "age" : 28, "salary" : 30000, "designation" : "lead" : "role" : "UI designer" }

{ "_id" : ObjectId("62987814ab1f2779ce0709f6"), "firstname" : "Samarth", "middlename" : "S", "lastname" : "H", "age" : 33, "salary" : 34000, "designation" : "tead" : "role" : "software developer" }

{ "_id" : ObjectId("62987814ab1f2779ce0709f6"), "firstname" : "Ram", "middlename" : "K", "lastname" : "H", "age" : 28, "salary" : 20000, "designation" : "gude", "role" : team lead" }

{ "_id" : ObjectId("6298794ab1f2779ce0709f6"), "firstname" : "Ram", "middlename" : "S", "lastname" : "Mukherjee", "age" : 28, "salary" : 20000, "designation" : "gude", "role" : team lead" }

{ "_id" : ObjectId("6298794ab1f2779ce0709f6"), "firstname" : "Vishwa", "middlename" : "Nath", "lastname" : "K", "age" : 28, "salary" : 20000, "designation" : "ge", "role"
```

7. Update all the Employees whose role is "Team Lead" with a salary of 55650 INR.

```
> db.nams.updateMany({"role":"team lead"},{$set:{"salary":55650}}) { "acknowledged" : true, "matchedCount" : 5, "modifiedCount" : 3 } > db.nams.find()
```

```
{ " id" : ObjectId("629875d6ab1f2779ce0709ee"), "firstname" : "Namratha", "middlename" :
"Shree", "lastname": "V", "age": 26, "salary": 50000, "designation": "scientist", "role": "tester" }
{ "id" : ObjectId("629875d6ab1f2779ce0709ef"), "firstname" : "Sushma", "middlename" : "R",
"lastname": "Hegde", "age": 27, "salary": 55650, "designation": "PA", "role": "team lead" }
{ "id" : ObjectId("629875d6ab1f2779ce0709f0"), "firstname" : "vedha", "middlename" : "Shree",
"lastname": "V", "age": 28, "salary": 60000, "designation": "lead", "role": "UI designer" }
{ " id" : ObjectId("629875d6ab1f2779ce0709f1"), "firstname" : "Sam", "middlename" : "S",
"lastname": "Smith", "age": 35, "salary": 70000, "designation": "associate", "role": "manager" }
{ "id": ObjectId("62987814ab1f2779ce0709f3"), "firstname": "Sriya", "middlename": "Kumar",
"lastname": "H", "age": 34, "salary": 55650, "designation": "PA", "role": "team lead" }
{ "id" : ObjectId("62987814ab1f2779ce0709f4"), "firstname" : "Vidya", "middlename" : "Kumar",
"lastname": "S", "age": 28, "salary": 60000, "designation": "lead", "role": "UI designer" }
{ "_id" : ObjectId("62987814ab1f2779ce0709f5"), "firstname" : "Samarth", "middlename" : "S",
"lastname": "H", "age": 33, "salary": 34000, "designation": "teacher", "role": "software
developer" }
{ " id" : ObjectId("62987964ab1f2779ce0709f6"), "firstname" : "Ram", "middlename" : "K",
"lastname": "Mukherjee", "age": 28, "salary": 55650, "designation": "guide", "role": "team
lead" }
{ "id" : ObjectId("62987964ab1f2779ce0709f7"), "firstname" : "Aruna", "middlename" : "Shree",
"lastname": "K", "age": 34, "salary": 21000, "designation": "recruiter", "role": "manager" }
{ "id" : ObjectId("62987964ab1f2779ce0709f8"), "firstname" : "Vishwa", "middlename" : "Nath",
"lastname": "A", "age": 28, "salary": 27000, "designation": "recruiter", "role": "manager" }
{ "id" : ObjectId("62987964ab1f2779ce0709f9"), "firstname" : "Swathi", "middlename" : "S",
"lastname": "Reddy", "age": 28, "salary": 34000, "designation": "teacher", "role": "software
developer" }
{ "id" : ObjectId("62987a97ab1f2779ce0709fb"), "firstname" : "Ashwini", "middlename" : "R",
"lastname": "Shetty", "age": 34, "salary": 55650, "designation": "PA", "role": "team lead" }
{ "id" : ObjectId("62987a97ab1f2779ce0709fc"), "firstname" : "Veera", "middlename" : "N",
"lastname": "Shetty", "age": 31, "salary": 55650, "designation": "HR", "role": "team lead" }
```

8. Group all the Employees by their age(common age should be there) and calculate the average salary obtained in each group.

```
> db.nams.aggregate([{$group:{_id:"$age",Average:{$avg:"$salary"}}}])

{ "_id" : 35, "Average" : 70000 }
    { "_id" : 26, "Average" : 50000 }
    { "_id" : 34, "Average" : 44100 }
    { "_id" : 27, "Average" : 55650 }
    { "_id" : 33, "Average" : 55650 }
    { "_id" : 31, "Average" : 55650 }
    { "_id" : 28, "Average" : 47330 }

> db.nams.aggregate([{$group:{_id:"$age",Average:{$avg:"$salary"}}}])
    { "_id" : 35, "Average" : 70000 }
    { "_id" : 26, "Average" : 50000 }
    { "_id" : 34, "Average" : 44100 }
    { "_id" : 27, "Average" : 55650 }
    { "_id" : 33, "Average" : 34000 }
    { "_id" : 31, "Average" : 55650 }
    { "_id" : 28, "Average" : 47330 }

> [ "_id" : 28, "Average" : 47330 }
```

9. Apply the map-reduce to perform the above operation and obtain the results.

```
> var mapfunction=function() {emit(this.age,this.salary)}
> var reducefunction=function(key,values) {return Array.avg(values)}
> db.nams.mapReduce(mapfunction,reducefunction, {'out':'result'})
{ "result" : "result", "ok" : 1 }
> db.result.find()

{ "_id" : 35, "value" : 70000 }
{ "_id" : 28, "value" : 47330 }
{ "_id" : 34, "value" : 44100 }
{ "_id" : 33, "value" : 34000 }
{ "_id" : 27, "value" : 55650 }
{ "_id" : 26, "value" : 50000 }
```

```
> var mapfunction=function(){emit(this.age,this.salary)}
> var reducefunction=function(key,values){return Array.avg(values)}
> db.nams.mapReduce(mapfunction,reducefunction,{'out':'result'})
{ "result" : "result", "ok" : 1 }
```

```
> db.result.find()
{ "_id" : 35, "value" : 70000 }
{ "_id" : 28, "value" : 47330 }
{ "_id" : 34, "value" : 44100 }
{ "_id" : 33, "value" : 34000 }
{ "_id" : 27, "value" : 55650 }
{ "_id" : 31, "value" : 55650 }
{ "_id" : 26, "value" : 50000 }
>
```